

REMARKS

It is respectfully requested that this Preliminary Amendment be entered in the above-identified Request For Continued Examiner prior to examination.

In the Final Official Action, the Examiner rejects claims 1, 2, 8, and 12-18 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner argues that the phrase "inner than" in the limitation "wherein the light-emitting module and the pattern projection module are provided in a space inner than the two light receiving modules" of claim 1, renders the claims indefinite because it cannot be determined as to what the Applicant regards as the invention.

In response, claim 1 has been amended to recite "wherein the light-emitting module and the pattern projection module are provided in a space ~~inner than~~ between the two light-receiving modules."

In the Official Action, the Examiner rejects claims 1, 2, 8, and 12-18 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,567,682 to Osterweil et al., (hereinafter "Osterweil"). In response, independent claim 1 has been amended to clarify its distinguishing features.

Claim 1 was previously amended to recite "a light-emitting module which can emit light to illuminate the object." Therefore, the Examiner appears to argue that the light-emitting module of the present invention reads on the light source of the pattern generator of the Osterweil reference.

In view of the above, the Applicant has further amended claim 1 to clarify that the light-emitting module has a function of emitting light when performing ordinary

photographing, that is, photographing to obtain information on color tone or contrast of the object without pattern projection.

Amended claim 1 is fully supported in the original disclosure, particularly in the specification at page 15, lines 16-24 and in Figures 7, 9A to 9F, 13A to 13C, and the accompanying descriptions relating to such Figures. Therefore, no new matter has been entered into the disclosure by way of the present amendment to claim 1.

An object of the present invention is to prevent information on an object in a photographed image from being lost by a shadow formed when the photograph is taken. The stereo adapter of claim 1 comprises “a pattern projection module which projects a predetermined pattern onto the object when taking a photograph to obtain distance information on the object”, and “a light-emitting module (illuminating light source) which emits light illuminating the object with light having no pattern when taking a photograph to obtain information on at least one of color tone and contrast of the object.” The present invention is characterized in that both the light-emitting module and the pattern projection module are located in a space between the two light-receiving modules. The Applicant respectfully submits that such an arrangement is not shown or suggested in the Osterweil reference and is novel.

In the Final Rejection, the Examiner cites Osterweil against the claims. In Osterweil, the pattern generator is element 136 shown in FIG. 5. Therefore, the light emitting module, which the Examiner pointed out as being included in the pattern generator, because of its function is considered to emit light when it projects a pattern onto the object. In other words, the light source of the pattern generator only applies light with a pattern to the object when taking a photograph to obtain distance information of the object by projecting a pattern.

On the other hand, amended claim 1 specifies “a light-emitting module which emits light illuminating the object with light having no pattern when taking a photograph to obtain information on at least one of color tone and contrast of the object”. Thus, the light-emitting module illuminates the object with light having no pattern when a photograph is taken to obtain information on color tone or contrast of the object (for example, white light used in taking a photograph with a general flashlight).

In consideration of the above, it is clear that the light-emitting module recited in claim 1 of the present application is completely different from the light source for pattern photographing disclosed in the Osterweil reference. Therefore, the reference does not teach the arrangement as recited in claim 1, in which both the light-emitting module and the pattern projection module are located in a space between the two-light receiving modules.

As described above, in the apparatus of the present invention recited in amended claim 1, both “a pattern projection module to obtain distance information on the object” and “a light-emitting module which emits light to obtain information on color tone or contrast of the object” are located in a space between the two-light receiving modules. With this structure, a shadow is formed in an occlusion area. Thus, a high-quality parallax image can be obtained, preventing unnecessary loss of information. Therefore, the stereo adapter of claim 1 represents an improvement in the stereo adapter of the prior art, including Osterweil.

As has been described above, the Osterweil reference cited by the Examiner neither discloses nor suggests the features of amended claim 1 and does not contemplate the problem of shadow formation when photographing a parallax image. Moreover, the Osterweil reference does not disclose that both the light-emitting module for illumination and the pattern projection module for projecting a pattern are located in a space between the two light-receiving modules.

With regard to the rejection of claims 1, 2, 8, and 12-18 under 35 U.S.C. § 102(e), a stereo adapter having the features discussed above and as recited in amended independent claim 1, is nowhere disclosed in Osterweil. Since it has been decided that “anticipation requires the presence in a single prior art reference, disclosure of each and every element of the claimed invention, arranged as in the claim,”¹ independent claim 1 is not anticipated by Osterweil. Accordingly, independent claim 1 patentably distinguishes over Osterweil and is allowable. Claims 2, 8 and 12-18 being dependent upon claim 1 are thus allowable therewith.

Further, the Applicant respectfully submits that dependent claims 13-19 patentably distinguish over the Osterweil reference independently of their base claim and are allowable. That is, Osterweil does not disclose or suggest the arrangements of the light-emitting module for illumination and the pattern projection module for projecting a pattern as recited in claims 13-15; the timing inputting module or the processing circuit as recited in claims 16 and 17; and the light emission by the light-emitting module and pattern objection by the pattern projection module being performed alternatively as recited in claim 18.

Lastly, new claim 19 has been added to further define the patentable invention. Claim 19 is fully supported in the original disclosure, particularly in the specification from page 10, line 24 to page 11, line 10, and from page 12, line 24 to page 13, line 6. Therefore, no new matter has been entered into the disclosure by way of the addition of new claim 19.

The reference cited by the Examiner neither discloses nor suggests the formation of a shadow when taking a photograph. Thus, Applicants respectfully submit that new claim 19 patentably distinguishes over the prior art and is allowable because Osterweil

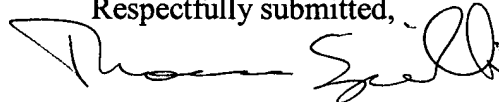
¹ Lindeman Maschinenfabrik GMBH v. American Hoist and Derrick Company, 730 F.2d 1452, 1458; 221 U.S.P.Q. 481, 485 (Fed. Cir., 1984).

does not disclose or suggest the arrangement of the light-emitting module for illumination and the pattern projection module for projecting a pattern as recited in new claim 19.

Furthermore, new claim 19 is at least allowable because it depends upon an allowable base claim.

In view of the above, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Thomas Spinelli", with a stylized flourish at the end.

Thomas Spinelli

Registration No.: 39,533

Scully, Scott, Murphy & Presser
400 Garden City Plaza
Garden City, New York 11530
(516) 742-4343

TS:cm